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Mineral Industry Surveys

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VANADIUM IN JANUARY 2005

Reported domestic consumption of vanadium in January 2005 was about 11% less than that of the previous month and was about 17% more than that of January 2004, according to the U.S. Geological Survey. Consumer stocks of vanadium, in all forms, were 398 metric tons (t) at the beginning of 2005 and 415 t at the end of January.

According to Ryan's Notes (2005b), U.S. ferrovanadium (FeV) prices ranged from $25.094 to $25.750 per pound of vanadium content in January, as compared with $22.143 to $23.143 in December. European FeV prices ranged from $49.125 to $51.125 per kilogram in January, as compared with $46.714 to $48.571 in December. Vanadium pentoxide (V_2O_5) prices ranged from $9.875 to $10.375 per pound in January as compared with $9.286 to $9.786 in December.

U.S. ferrovanadium prices surged over $25 per pound of vanadium in January and were about quadruple the level reported at the end of December 2003. One trader stated, "As we go into 2005, ferrovanadium stocks are just not there." A major reason for the global restriction in ferrovanadium supply was the closure of the Xstrata, Plc. Windimurra Mine in Australia in early 2004 and the discouragement of U.S. ferrovanadium imports from China and South Africa by antidumping duties in 2002. Another factor that drove ferrovanadium prices higher was surging steel demand, including specialty, stainless, and carbon steels (Platts Metals Week, 2005).

With the closure of the CS Metals of Louisiana LLC catalyst recycling facility in Covenant, LA, at the end of December 2004, Strategic Minerals Corp. (Stratcor) made other arrangements for vanadium to replace the 10% of their feedstock that CS Metals had provided. CS Metals had the capacity to recover about 1,800 t (4 million pounds) per year of vanadium pentoxide from spent catalysts, but market sources doubted they had been operating above 50% of capacity. Stratcor reopened its Vametco Mine in Britts, South Africa, to supplement other feed sources for its South African ferrovanadium plant. Stratcor's contract for purchase of vanadium-bearing slag from Highveld Steel and Vanadium Corp. Ltd. runs through 2006, and it had other slag sources as well (Ryan's Notes, 2005a).

References Cited

Platts Metals Week, 2005, US FeV price rockets into new year: Platts Metals Week, v. 76, no. 1, January 3, p. 1.
Ryan's Notes, 2005a, Ferroalloy notes: Ryan's Notes, v. 11, no. 2, January 10, p. 3.
Ryan's Notes, 2005b, [untitled]: Ryan's Notes, v. 11, no. 6, February 7, p. 4.

TABLE 1

U.S. CONSUMPTION AND CONSUMER STOCKS OF VANADIUM, BY FORM[1]

(Kilograms, contained vanadium)

	2004				2005	
	January-December		December		January	
	Consumption	Stocks	Consumption	Stocks	Consumption	Stocks
Ferrovanadium[2]	3,510,000	298,000	328,000	298,000	296,000	293,000
Vanadium-aluminum alloy	W	W	W	W	W	W
Other[3]	214,000	101,000	21,800	101,000	16,200	122,000
Total	3,730,000	398,000	349,000	398,000	312,000	415,000

W Withheld to avoid disclosing company proprietary data; included with "Other."

[1]Data are rounded to no more than three significant digits; may not add to totals shown.

[2]Includes other vanadium-iron-carbon alloys as well as vanadium oxides added directly to steel.

[3]Includes other vanadium alloys, vanadium metal, vanadium pentoxide, vanadates, chlorides, other specialty chemicals, and items indicated by symbol W.

TABLE 2

U.S. CONSUMPTION OF VANADIUM, BY END USE[1]

(Kilograms, contained vanadium)

	2004		2005
	January-December	December	January
Steel:			
Carbon	996,000	103,000	89,600
High-strength low-alloy	1,150,000	96,200	83,100
Stainless and heat-resisting	64,500	5,470	5,360
Full alloy	1,060,000	87,000	83,100
Tool	238,000	35,600	34,500
Total steel	3,510,000	327,000	296,000
Superalloys	8,350	846	566
Miscellaneous and unspecified[2]	211,000	21,400	15,900
Total consumption	3,730,000	349,000	312,000

[1]Data are rounded to no more than three significant digits; may not add to totals shown.

[2]Includes cast irons, alloys excluding steel and superalloys, chemical and ceramic uses, and other miscellaneous and unspecified uses.

TABLE 3
U.S. IMPORTS AND EXPORTS OF ALUMINUM-VANADIUM MASTER ALLOY AND VANADIUM METAL, INCLUDING WASTE AND SCRAP[1]

(Kilograms, gross weight)

	Aluminum-vanadium master alloy		Vanadium metal, including waste and scrap	
	Quantity	Value	Quantity	Value
Imports for consumption:				
2003	232,000	$425,000	186,000	$2,850,000
2004:				
October	--	--	--	--
November	--	--	2,560	338,000
December:				
Germany	--	--	40	21,800
Total	--	--	40	21,800
Year to date	19,100	66,700	31,200	1,710,000
Exports:				
2003	6,710,000	16,700,000	201,000	3,910,000
2004:				
October	1,790,000	3,780,000	11,100	354,000
November	1,990,000	4,430,000	242,000	2,520,000
December:				
Canada	152,000	363,000	--	--
Costa Rica	458	5,950	--	--
Italy	298	3,730	--	--
Japan	359	4,100	15,100	314,000
Mexico	891,000	1,840,000	--	--
Norway	6,990	60,500	--	--
Taiwan	--	--	50	8,410
United Kingdom	24,600	110,000	18,400	427,000
Total	1,080,000	2,390,000	33,500	749,000
Year to date	10,900,000	24,000,000	522,000	7,760,000

-- Zero.

[1]Data are rounded to no more than three significant digits; may not add to totals shown.

Source: U.S. Census Bureau.

TABLE 4
U.S. IMPORTS AND EXPORTS OF FERROVANADIUM, VANADIUM PENTOXIDE (ANHYDRIDE) AND OTHER OXIDES AND HYDROXIDES OF VANADIUM[1]

(Kilograms, contained vanadium)

	Ferrovanadium		Vanadium pentoxide (anhydride)[2]		Other oxides and hydroxides of vanadium	
	Quantity	Value	Quantity	Value	Quantity	Value
Imports for consumption:						
2003	1,360,000	$14,300,000	474,000	$3,610,000	38,700	$769,000
2004:						
October	274,000	4,680,000	67,500	762,000	--	--
November	214,000	5,520,000	112,000	897,000	56	8,470
December:						
Austria	15,700	756,000	--	--	--	--
Canada	4,900	115,000	--	--	--	--
China	--	--	7,840	241,000	--	--
Czech Republic	125,000	4,870,000	--	--	--	--
South Africa	--	--	10,200	222,000	--	--
Switzerland	79,300	1,220,000	--	--	--	--
Total	225,000	6,970,000	18,100	463,000	--	--
Year to date	3,020,000	62,100,000	1,040,000	8,600,000	120,000	1,650,000
Exports:						
2003	397,000	5,420,000	185,000	1,540,000	284,000	2,450,000
2004:						
October	8,000	192,000	5,380	70,300	32,600	220,000
November	119,000	5,160,000	4,370	79,700	61,200	328,000
December:						
Austria	--	--	4,050	139,000	--	--
Canada	--	--	--	--	463	9,110
Japan	--	--	--	--	618	5,500
Mexico	6,610	337,000	1,000	19,800	--	--
Total	6,610	337,000	5,050	158,000	1,080	14,600
Year to date	267,000	8,770,000	240,000	2,090,000	584,000	4,140,000

-- Zero.

[1]Data are rounded to no more than three significant digits; may not add to totals shown.

[2]May include catalysts containing vanadium pentoxide.

Source: U.S. Census Bureau.

TABLE 5
U.S. IMPORTS FOR CONSUMPTION OF VANADIUM-BEARING ASH, SLAG[1]

(Kilograms, contained vanadium pentoxide)

	Ash and residues		Ash and residues (not from the manufacture of iron and steel)		Slag, from the manufacture of iron and steel	
	Quantity	Value	Quantity	Value	Quantity	Value
2003	4,940,000	$3,030,000	14,300,000	$3,140,000	369,000,000	$6,190,000
2004:						
October	355,000	792,000	330,000	69,200	1,460,000	1,130,000
November	240,000	610,000	431,000	59,600	59,200,000	849,000
December:						
Canada	--	--	255,000	51,400	11,700,000	613,000
Dominican Republic	--	--	--	--	4,020	6,720
Mexico	292,000	807,000	--	--	--	--
South Africa	--	--	--	--	1,270,000	425,000
Total	292,000	807,000	255,000	51,400	13,000,000	1,050,000
Year to date	4,260,000	8,520,000	11,100,000	2,000,000	244,000,000	10,400,000

-- Zero.

[1]Data are rounded to no more than three significant digits; may not add to totals shown.

Source: U.S. Census Bureau.

TABLE 6
U.S. IMPORTS FOR CONSUMPTION OF
MISCELLANEOUS VANADIUM CHEMICALS[1]

(Kilograms, contained vanadium)

	Sulfates		Vanadates	
	Quantity	Value	Quantity	Value
2003	--	--	72,900	$902,000
2004:				
October	--	--	652	22,700
November	--	--	8,580	161,000
December:				
Germany	--	--	206	11,500
Japan	--	--	45	7,380
South Africa	--	--	11,900	125,000
Total	--	--	12,100	144,000
Year to date	500	19,100	74,700	1,150,000

-- Zero.

[1]Data are rounded to no more than three significant digits; may not add to totals shown.

Source: U.S. Census Bureau.